

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1 - 12 (Canceled).

Claim 13 (Currently Amended): The multiple output power source apparatus according to ~~claim 12~~ claim 28, wherein

the synchronous signal comprises a clock signal of a predetermined frequency,
the abnormality signal is generated by changing the clock signal, and
the abnormality signal detection means detects change of the clock signal.

Claim 14 (Original): The multiple output power source apparatus according to claim 13,
wherein

the change of the clock signal is generated by the first power source circuit and/or second
power source circuit.

Claim 15 (Original): The multiple output power source apparatus according to claim 13,
wherein

the change of the clock signal is implemented by stopping the clock signal, and

the abnormality signal detection means measures an interval during which the clock signal is stopped and shuts down the own circuit when it is detected that the stop state continues for a predetermined interval or longer.

Claim 16 (Original): The multiple output power source apparatus according to claim 13, wherein

the change of the clock signal is implemented by changing a voltage level of the clock signal, and

the abnormality signal detection means measures the voltage level of the clock signal and shuts down the own circuit when a predetermined voltage level is detected.

Claim 17 (New): A multiple output power source apparatus comprising a plurality of power source circuits equipped with independent output control circuits, wherein

the output control circuits respectively comprises:

abnormality signal output means for conducting operation shutdown of an associated power source circuit when an abnormality occurs in the associated power source circuit and for outputting an abnormality signal to other power source circuits; and

means for controlling a drive circuit by an output of an output monitoring circuit for monitoring the associated power source circuit whereby an output voltage of the associated power source circuit is stably outputted at a desired voltage,

whereby at least two power source circuits of the plurality of power source circuits output mutually different output voltages.

Claim 18 (New): The multiple output power source apparatus according to claim 17, wherein the output control circuits further comprise:

abnormality signal input means for inputting an abnormality signal outputted from the other power source circuits; and

operation shutdown means for conducting the operation shutdown of the associated power source circuit by the input of the abnormality signal by the abnormality signal input means.

Claim 19 (New): The multiple output power source apparatus according to claim 18, wherein the abnormality signal output means and the abnormality signal input means conduct input and output of the abnormality signal by using a single terminal.

Claim 20 (New): The multiple output power source apparatus according to claim 18, wherein operation of a power source circuit selected from the plurality of power source circuits is continued by the independent output control circuit even when the abnormality signal has been outputted from the other power source circuits.

Claim 21 (New): A multiple output power source apparatus comprising a plurality of power source circuits equipped with independent output control circuits, wherein

the output control circuits respectively comprises:

synchronous oscillation signal output means for outputting a synchronous oscillation signal synchronized with switching oscillation frequency of the associated power source circuit to output control circuits of other power source circuits;

a drive circuit that generates a switching signal;

an output voltage monitoring circuit that monitors the output voltage of the associated power source circuit; and

means for controlling the drive circuit by an output of the output voltage monitoring circuit so that an output voltage of the associated power source circuit is stably outputted at a desired level, whereby at least two power source circuits of the plurality of power source circuits output mutually different output voltages.

Claim 22 (New): The multiple output power source apparatus according to claim 21, wherein the output control circuits further comprise:

synchronous oscillation signal input means for inputting a synchronous oscillation signal outputted from other power source circuit; and

control means for conducting synchronous control of a switching oscillation frequency by inputting the synchronous oscillation signal by the synchronous oscillation signal input means.

Claim 23 (New): The multiple output power source apparatus according to claim 22, wherein the synchronous oscillation signal output means and the synchronous oscillation signal input means conduct input and output by using a single terminal.

Claim 24 (New): The multiple output power source apparatus according to claim 22, wherein operation of a power source circuit selected from the plurality of power source circuits is continued by the output control circuit even when an abnormality signal has been outputted from the other power source circuits.

Claim 25 (New): The multiple output power source apparatus according to claim 22, wherein the output control circuits respectively comprises:

control means for synchronously controlling a switching phase of own output control circuits by a switching phase of the synchronous oscillation signal.

Claim 26 (New): A multiple output power source apparatus comprising a plurality of power source circuits, wherein

at least two of the plurality of power source circuits are connected by a synchronous line,
first and second power source circuits connected by the synchronous line comprise independent control circuits, respectively,

the control circuit provided in the first power source circuit comprises:

synchronous signal output means for outputting a synchronous signal synchronized with the switching frequency of the control circuit to the synchronous line;

abnormality signal output means for outputting an abnormality signal indicating the abnormality occurrence to the synchronous line;

a drive circuit that generates a switching signal for controlling an output voltage of the first power source circuit; and

a voltage monitoring circuit that monitors the output voltage of the first power source; and

means for controlling the switching signal generated from the drive circuit by an output of the voltage monitoring circuit whereby the output voltage of the first power source circuit is stably controlled to a desired voltage,

the control circuit provided in the second power source circuit comprises:

synchronous signal input means for inputting the synchronous signal outputted to the synchronous line;

abnormality signal input means for inputting the abnormality signal outputted to the synchronous line;

a drive circuit that generates a switching signal for controlling an output voltage of the second power source circuit; and

a voltage monitoring circuit that monitors the output voltage of the second power source circuit; and

means for controlling the switching signal generated from the drive circuit by an output of

the output monitoring circuit whereby the output voltage is stably controlled to a desired voltage,
whereby at least two power source circuits of the plurality of power source circuits output mutually different output voltages.

Claim 27 (New): The multiple output power source apparatus according to claim 26, wherein
the control circuit provided in the first power source circuit further comprises abnormality signal input means for inputting the abnormality signal outputted to the synchronous line,
the control circuit provided in the second power source circuit further comprises abnormality signal output means for outputting the abnormality signal indicating the abnormality occurrence to the synchronous line, and
the first and second power source circuits shut down own circuits when the abnormality signal has been inputted from the synchronous line.

Claim 28 (New): A multiple output power source apparatus comprises a plurality of power source circuits, wherein
at least two of the plurality of power source circuits are connected by a synchronous line,
first and second power source circuits connected by the synchronous line comprise independent control circuits, respectively,
the control circuits provided in the first and second power source circuits respectively comprise:
frequency synchronization means for controlling switching frequency of own circuit by using a synchronous signal outputted to the synchronous line; and
abnormality signal detection means for detecting an abnormality signal outputted to the synchronous line and shutting down the own circuit;
a drive circuit that generates a switching signal for controlling an output voltage; and
a voltage monitoring circuit that monitors the output voltage thereby to control the switching

signal generated from the drive circuit whereby the output voltage is stably controlled to a desired voltage,

whereby at least two power source circuits of the plurality of power source circuits output mutually different output voltages.